04 Sustainability
Environmental Management

NSK Environmental Policy and Environmental Code of Conduct

A sense of crisis is growing over the advance of global warming and climate change, depletion of resources, chemical pollution of air and water, and loss of biodiversity. All of humanity faces the challenge of learning to live sustainably while protecting the global environment. The NSK Group established the NSK Environmental Policy to reflect its commitment across all of its business operations to help protect the global environment, as stated in the NSK Mission Statement. In line with this policy, we strive to develop products and services that help reduce environmental impact, and we work to reduce the impact of our own operations and throughout our value chain.

NSK Environmental Policy

NSK is determined to contribute to a safer, smoother society and help protect the global environment through its innovative technology integrating Motion & Control™, as declared in the NSK Mission Statement. The entire NSK Group works hard to achieve this mission by setting its own ambitious goals. The Group continues to take on the challenge of maximizing the environmentally protective benefits of its products and minimizing the environmental impact of its business activities.

Living up to our aspiration to Change & Go Beyond, we work hard to achieve our goal of net-zero environmental impact and create the kind of new value that will drive the green society of the future. We are committed to growing sustainably and continuing to be needed, trusted and relied upon by society.

1. Contributing to the Establishment of a Carbon-Neutral Society

We help societies around the world to minimize energy loss by developing advanced technologies in the field of tribology (friction control and lubrication) and constantly improving our products and services. We seek to leverage our technological innovations to make our business carbon-neutral and achieve net-zero greenhouse gas emissions.

2. Contributing to the Establishment of a Sound Material-Cycle Society

We help build a sound material-cycle society that makes the most of the benefits of recycling by developing environmentally friendly products and producing them with as few natural resources and as little energy as possible.

3. Contributing to the Establishment of an Environmentally Symbiotic Society

We work hard to prevent pollution and minimize environmental impact throughout the supply chain to help build an environmentally symbiotic society.

NSK Environmental Code of Conduct

All the officers and employees of the NSK Group are expected to fulfill the NSK Environmental Policy by ensuring their actions are always in accordance with the provisions of the NSK Environmental Code of Conduct.

1. Ensuring Environmental Compliance

We always adhere to relevant environmental laws and regulations in the countries and regions where we operate. We assess the effect of our business activities on the environment and set our own standards and policies, while striving to prevent any pollution of air, water, or soil and minimizing negative environmental impact.

2. Fighting Global Warming and Climate Change

We deliver products and services that help reduce energy loss, contributing to even better energy efficiency. We minimize greenhouse gas emissions across every area of our corporate activities. In addition, we cooperate with our suppliers to minimize greenhouse gas emissions in the supply chain.

3. Conserving Resources and Practicing Recycling Measures

We use water efficiently and procure parts and raw materials with low environmental impact. We make every effort to reduce, reuse and recycle in our production operations, while minimizing both resource inputs and waste.

4. Developing and Popularizing Environmentally Friendly Products

We develop advanced technologies in the field of tribology (friction control and lubrication). We develop, produce, and provide environmentally friendly products that make the most of these technologies, thereby making the greatest possible contribution to environmental protection and social progress.

5. Conserving Biodiversity

We monitor the effect of our business activities on biodiversity, especially in the phases of research and development, procurement, and production. We mitigate the impact of these activities and work to protect biodiversity as a responsible member of the local communities where we operate.

6. Reducing Use of Environmentally Harmful Substances

We properly assess the environmental risks of any potentially harmful substances we must use, and whenever possible we switch to alternatives. We practice rigorous substance management at each phase of our operations, from development and design, to procurement, production, and distribution.

7. Communicating with Stakeholders

We disclose the progress of our environmental management efforts, and we seek to continually improve their effectiveness. We pursue good communication with our stakeholders, including government environmental agencies, local communities, customers, and suppliers.

Akitoshi Ichii President and Chief Executive Officer
Established December 12, 1997
Revised November 15, 2021

Please see our website for more information.

Environmental Action Plan

NSK has established the Environmental Action Plan to promote ESG management, one of the key issues of MTP2026. Based on our global environmental management and environmental compliance, we set a “carbon-neutral society,” a “material-cycle society,” and an “environmentally symbiotic society,” as our vision, and we are promoting activities that aim to fulfill our role through minimizing the environmental footprint of our business activities and maximizing our contribution to the environment with our products. This is also linked to helping to achieve the SDGs.

NSK Environmental Action Plan

Contribute to the realization of a sustainable society, contribute to the SDGs, grow as a sustainable company

Long-term guidelines	Contributing to the establishment of a carbon-neutral society	Contributing to the establishment of a sound material-cycle society	Contributing to the establishment of an environmentally symbiotic society
Efforts in the “creating” activities –Minimizing the environmental impact of business activities–	**Reduction of CO_2 emissions from business activities** ● Technological innovation Increasing production capacity of existing facilities, implementing thorough energy conservation measures, making energy consumption visible, increasing logistics and business efficiency ● Utilization of renewable energy ● Reduction of emissions during manufacturing through product design	**Waste management** ● Promotion of the 3Rs (Reduce, Reuse, Recycle) **Effective use of water resources** ● Applying cyclic use, switching to air cooling **Effective use of steel and other resources** ● Improving efficiency through existing technology, upgrading tools and dies ● Practical applications of new processing technology and innovative technology	**Biodiversity conservation** ● Promotion of social contribution activities **Reduction of environmentally harmful substances used in manufacturing** ● Reduction of VOCs and PRTR-designated substances **Preventing environmental pollution** ● Repair of buried underground tanks
Efforts at the “utilizing” stage –Maximizing the environmental contribution of products–	**Reduction of CO_2 through environmentally friendly products** ● Base performance improvement ● Contribute to energy diversification applications	**Effective use of resources through lightweight, long-life design of products** **Reduction of environmentally harmful substances in products**	**Products guaranteed free of environmentally harmful substances** ● Establishment of assurance system ● Promotion of green procurement

Environmental compliance

Global environmental management

All areas and divisions of NSK Group business activities

Climate Change–Related Risks and Opportunities: Addressing the TCFD Recommendations

In January 2020, NSK expressed its support for the recommendations of the TCFD (Task Force on Climate-related Financial Disclosures), and in line with the recommendations of the TCFD final report, NSK is working to identify risks and opportunities to its business activities due to climate change and to enhance its disclosure information, including reflection in management strategies and progress in response measures.

NSK has always recognized climate-related risks as risks of high importance, and all groups across business divisions and functional departments have been working to address them. Moreover, since FY2021, utilizing scenario analysis recommended by the TCFD, and assuming short-, mid-, and long-term changes in the business environment associated with climate change, we have been strengthening our efforts to analyze the impact of climate change on NSK’s activities and identify issues.

Risks and opportunities from climate change

With the aim of verifying the impact of climate change on NSK’s value chain and the effectiveness of its countermeasures, two scenario analyses were conducted for the period up to 2050: 1.5°C to 2°C and 4°C temperature rises. The analysis confirmed that NSK’s growth will come from proactively responding to market changes by strengthening development, production, and sales of products and services that contribute to energy conservation, while limiting the impact of stricter regulations aimed at building a carbon-neutral society.

NSK strategy

NSK has set long-term goals and is strengthening its efforts to reduce CO_2 emissions by focusing on reducing CO_2 emissions in its own business activities, and creating and contributing to CO_2 emissions reduction when its products and services are utilized by customers.

Please see our website for more information. ▶

Initiatives for Minimizing the Environmental Impact of Our Business Activities and Maximizing the Environmental Contribution of Our Products

NSK aims to contribute to a sustainable society throughout the entire life cycle of its products by minimizing the environmental impact of the "creating" stage and maximizing the environmental contribution of the "utilize" stage.

Efforts in the "creating" activities – Minimizing the environmental impact of business activities –

Development and design

NSK is developing environmentally friendly products and technologies in line with its Basic Policy for the Development of Environmentally Friendly Products. By making NSK products widely available to customers around the world, we aim to contribute to the advancement of machinery and the development of environmentally friendly industries, thereby reducing the environmental impact of society as a whole.

Basic Policy for the Development of Environmentally Friendly Products

To provide environmentally friendly products, we strive to develop products that minimize environmental impact throughout their life cycle, from research and development to design production, use, and disposal.

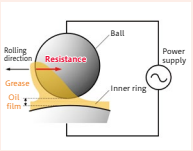
1. Each product should contribute toward the energy and resource conservation of the machine in which it is installed.
2. The amount of energy and resources required during product manufacturing should be minimal.
3. Environmentally harmful substances should not be used in products or manufacturing processes.
4. Products should contribute to the health and safety of end users by having low levels of vibration, noise, and dust emissions.

Environmentally Friendly Products ▶

Examples of Initiatives

Development of the electrical impedance measurement method has realized further energy savings

NSK has developed an electrical impedance measurement method* that uses an electric circuit to simultaneously measure the oil film thickness and rupture rate in the bearing contact zone. This enables real-time monitoring of the lubrication condition inside the bearing, contributing to lower torque and longer service life. NSK will continue to deepen its tribology technology to achieve further energy savings.



* Received Award from the Japanese Society of Tribologists Technology for our research

▶ P.32 Strengthening Internal Capital: Intellectual Capital -Strengthening Technical Capabilities-

Procurement

Through communication with our suppliers, we will share our customers' needs and social demands, and by promoting collaboration, we will mutually improve our activities and contribute to solving social issues faced by our customers and beyond.

In addition, we aim to work toward global environmental conservation throughout our supply chain by procuring environmentally friendly products from suppliers who are actively engaged in environmental conservation.

Major Initiatives

- **Promotion of green procurement** : Environmental conservation activities in cooperation with suppliers and promotion of chemical substance countermeasures.
- **Global warming/climate change countermeasures** : Identification and reduction of Scope 3 (upstream) CO_2 emissions.
- **Resource saving and recycling** : Reduction of material waste in parts processing, repeated use of packaging and wrapping, etc.

Examples of Initiatives

Revising Green Procurement Standards

The NSK Group Green Procurement Standards were revised in October 2022. We have asked our suppliers to understand NSK's initiatives and to increase the level of their activities while strengthening cooperation. In addition, we have launched initiatives to reduce CO_2 emissions in Scope 3 (upstream).

Green Procurement Standards

▶ P.45 Supply Chain Management

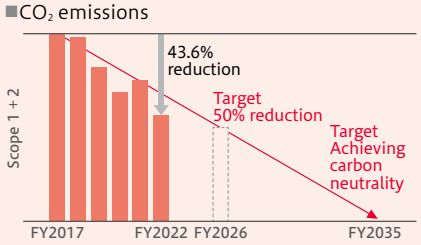
Manufacturing

Measures for energy conservation, global warming, and climate change

Through energy conservation, technological innovation, and conversion to renewable energy, NSK is implementing various measures to reduce Scope 1 + 2 CO_2 emissions by 50% from FY2017 levels by FY2026 and to achieve carbon neutrality of Scope 1 + 2 by FY2035. In FY2022, as the impact of the COVID-19 pandemic began to subside, production volume turned upward. However, we switched to CO_2 emission-free electricity and made steady progress with energy conservation activities, achieving a 43.6% reduction in CO_2 emissions compared to FY2017.

Major Initiatives

- **Energy saving** : Air conditioners at plants have been replaced with air-cooled heat pumps, greatly improving energy efficiency.
- **Technological innovation** : Promoting the development of new heat treatment technologies.
- **Renewable energy** : Some plants in Japan have switched 100% of their electricity to effectively CO_2-free electricity, and NSK (CHINA) INVESTMENT CO., LTD., and NSK (CHINA) RESEARCH AND DEVELOPMENT CO., LTD., have achieved Scope 1 + 2 carbon neutrality.



Examples of Initiatives

Accelerating the switch to renewable energy electricity

NSK completed the switchover to CO_2-free electricity at its main business locations in Europe in 2021, and switched to renewable energy electricity at some plants in Japan and Thailand in 2022. In addition, more than half of our plants in China have installed solar power generation equipment and are introducing their own dedicated power sources. In addition, NSK (CHINA) INVESTMENT CO., LTD., and NSK (CHINA) RESEARCH AND DEVELOPMENT CO., LTD., have achieved Scope 1 + 2 carbon neutrality through the achievement of effectively CO_2-free electricity and fuels. In this way, we are accelerating our initiatives for making our electricity consumption effectively CO_2-free in Asia as well.

Photovoltaic power generation system installed on the roof of NSK (CHINA) RESEARCH AND DEVELOPMENT CO., LTD.

Started power conversion using renewable energy for 100% of our electricity from some plants in Japan (Japanese language only) ▶

Achieved carbon neutrality at the headquarters and R&D center in China ▶

Resource recycling

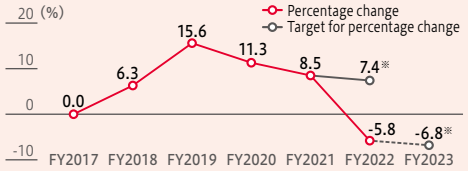
By promoting the 3Rs (reduce, reuse, recycle) and making effective use of resources such as water, steel resources, and other minerals and resins, we aim to contribute to the creation of a recycling-oriented society. We also strive to prevent environmental pollution by properly disposing of waste.

With regard to the use of water, we have evaluated the location of the business site and the amount of water used, and have determined that the risk of limiting the use of water is low at this point in time. However, in light of the long-term risks, we are promoting measures that contribute to reducing water consumption.

Major Initiatives

- **Reduce** : Reduce waste of steel and other materials by improving processing methods, tools, and dies.
- **Reuse** : Promote recycling of water and repeated use of packaging and wrapping.
- **Recycle** : Develop recycling routes, promote recycling of plastic containers, reduce waste sent to landfills.
- **Proper disposal** : Advanced management through on-site checks of waste contractors and information systems, thoroughly observing related laws and regulations.

■Changes in waste output per unit of sales



* The target is a 1% reduction from the previous fiscal year

Examples of Initiatives

Briquetting equipment installed in FY2022

Waste from grinding processes accounts for about 40% of the NSK Group's waste. The NSK Group views the reduction and stable recycling of grinding waste as a particularly important issue and is taking the necessary measures.

To this end, we have installed equipment at our plants around the world to compress grinding debris, reduce the water content, and solidify it into briquettes to reduce weight and volume, enabling it to be recycled as a raw material for steelmaking.

Briquetting facility at the Peterlee plant (UK)

Logistics

To reduce the environmental impact of the logistics stage, NSK is working together with transportation companies on the following initiatives.

Major Initiatives

Efforts to reduce CO_2 emissions

- Shortening trucking distances by changing the port of entry for exports to an optimal location.
- Introduced hybrid vehicles for large vehicles used in long-distance trunk line transportation to improve fuel efficiency.
- Improved loading efficiency by promoting mixed loads.

Waste reduction initiatives (3Rs)

- Promoted the conversion of wooden pallets used to load imported goods to other uses and their return to the export side.
- Reducing the waste amount due to the longer life of plastic returnable containers through the changed specification and recycling as materials for new containers.
- Expanding the use of recyclable plastic pallets, which have a longer service life than wooden pallets, to reduce the waste amount.

Examples of Initiatives

Reduction of waste in logistics

NSK is in the process of switching distribution pallets for loading and transporting products when making deliveries to customers, from wooden ones to plastics.

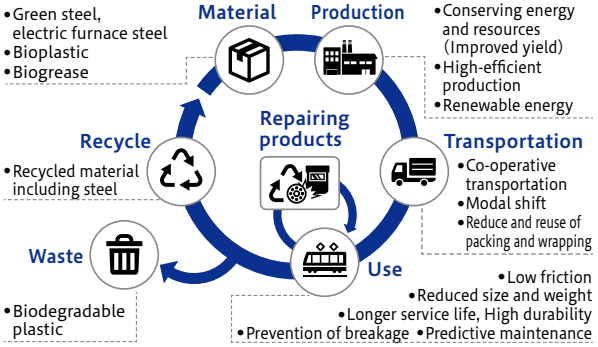
By switching to plastic pallets, the pallets are less prone to breakage and can be used for a longer period of time, significantly reducing the amount of wood used. They also has the advantage of not chipping and splintering during use. Furthermore, pallets that are no longer usable due to damage or deterioration can be recycled as raw materials for new resin products, thus providing excellent resource recycling.

Plastic pallet

Efforts at the "utilizing" stage – Maximizing the environmental contribution of products –

In addition to products that contribute to energy and resource conservation, we aim to maximize our customers' environmental contribution at the "utilizing" stage by providing services such as condition monitoring systems that help maintain good equipment operation and repair of bearings with light damage.

Providing solutions throughout the product life cycle and contributing to the realization of a sustainable society

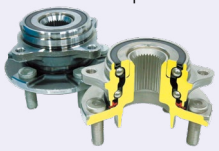


P.27 Addressing Automation, Labor Savings, Smart Technology, and Other Needs

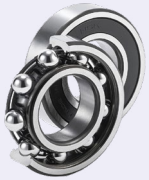
Contribution to CO_2 emissions reduction

Direct contribution*1:

Direct contribution to reducing CO_2 emissions through the performance of individual NSK products



Low friction hub unit bearings



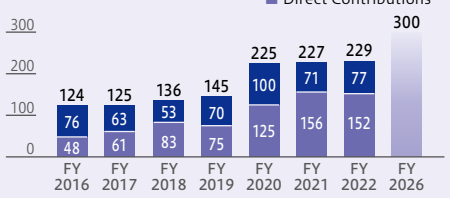
High-speed rotating ball bearings for electric vehicle drive motors

Indirect contribution*2:

Indirect contribution to avoiding the emission of CO_2 by incorporating NSK products in customer equipment and facilities related to decarbonization or providing product repair and other services

Bearings for wind turbine generators

■CO_2 Emission Reduction Contribution by Products*3



*1 Formula for calculating the amount of contribution: Amount of CO_2 emission reduction contribution per NSK product × sales volume × number of years of operation (Guideline for the reduction contribution quantification for bearing CO_2 emissions, The Japan Bearing Industry Association)

*2 Contribution calculation formula: CO_2 emissions avoided per unit × rate of contribution of NSK products × sales volume × years of operation

*3 The CO_2 emission reduction contribution in past fiscal years is reviewed based on the emission factor used to calculate the CO_2 emission reduction contribution from electricity consumption in FY2022.

Examples of Initiatives

World's first establishment of highly accurate prediction technology for bearing life

Established a technology that uses ultrasonic inspection (Micro-UT method) to estimate the size and amount of minute non-metallic inclusions inside steel materials that affect bearing life and predict bearing life with high accuracy. This will enable customers to take advantage of the long-life performance of NSK bearings made of high-quality steel in their machine design, thereby reducing the frequency of maintenance and contributing to smaller and lighter machines.

Developed the world's first biomass plastic retaining piece NSK S1™ for ball screws

Developed the world's first 100% plant-derived biomass plastic retaining piece NSK S1™ for ball screws, expanding the use of biomass plastic, which is more effective at reducing CO_2 emissions than conventional fossil-based plastics.

Development of edible oil deterioration control filter

The edible oil deterioration control filter developed by NSK's materials technology extends the life of cooking oil for deep frying and reduces the number of replacements, thereby contributing to resource conservation and water quality preservation through waste oil volume reduction.